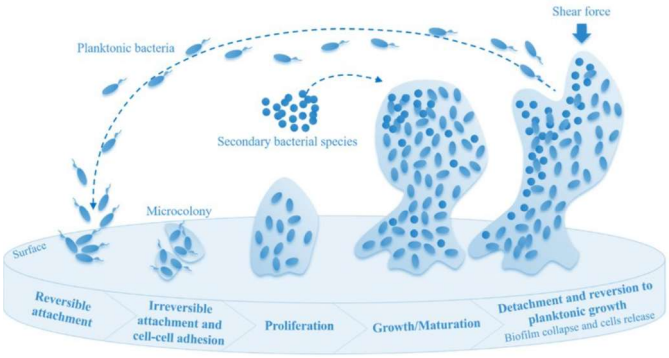
Biofilm Management Pathway

What are biofilms?

- A biofilm is a community of micro-organisms that attach to a surface by creating a sticky substance called extracellular polymeric substance (EPS) which surrounds and protects the bacteria
- A biofilm can be made up of a single species or a mixture of species
- A mature biofilm can develop in as little as 24-48 hours after which it will disperse bacteria into the air to land in other areas of the wound bed or surrounding skin (Pinto et al, 2020)



How Biofilm Develops, Pinto et al, 2020

This might be the first time you've heard the term biofilm, but they're actually all around us even on our teeth! We brush twice a day to manage the biofilm on our teeth and need a similar consistent approach to wound biofilm.

How does biofilm affect wound healing?

- Biofilm are an important cause of delayed healing in wounds, they are thought to delay wound healing by creating an inflammatory response in the wound bed and surrounding tissues which does not allow healing to progress through the normal steps
- There is increasing evidence that biofilm are present in most, if not all, chronic, non-healing wounds (IWII, 2023)

How do I know there is a biofilm in the wound?

- There is currently no diagnostic test for wound biofilm, swabbing can be incorrect due to the way that biofilm grows in small pockets rather than laterally across a wound bed
- It is not possible to make a diagnosis of wound biofilm by eye
- The determination that a wound is not healing because of biofilm is based on eliminating other possible causes of non-healing by identifying underlying causes and ensuring that the patient is optimised and receiving the correct wound management (IWII, 2023)

How do I manage a biofilm in a wound?

- See the pathway overleaf for a step by step guide
- Literature says that wound cleansing and debridement should be done consistently and regularly to disrupt a biofilm and best practice is a 4 step technique of cleansing, debriding, management of wound edges and appropriate dressing selection (Murphy et al, 2022; BBraun, 2021; Choudhury and Downie, 2022)

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